

**PATENT APPLICATION**  
**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re application of

Docket No: Q77727

Hideki TOMOZAWA, et al

Appln. No.: National Stage of PCT/JP2004/014128

Confirmation No.: Unknown

Group Art Unit: Unknown

Filed: March 20, 2006

Examiner: Unknown

For: GALLIUM NITRIDE-BASED COMPOUND SEMICONDUCTOR LIGHT-EMITTING  
DEVICE AND ELECTRODE FOR THE SAME

**INFORMATION DISCLOSURE STATEMENT**  
**UNDER 37 C.F.R. §§ 1.97 and 1.98**

**MAIL STOP AMENDMENT**

Commissioner for Patents

P.O. Box 1450

Alexandria, VA 22313-1450

Sir:

In accordance with the duty of disclosure under 37 C.F.R. § 1.56, Applicant hereby notifies the U.S. Patent and Trademark Office of the documents which are listed on the attached PTO/SB/08 A & B (modified) form and/or listed herein and which the Examiner may deem material to patentability of the claims of the above-identified application.

One copy of each of the listed documents is submitted herewith, except for the following: U.S. patents and/or U.S. patent publications; and co-pending non-provisional U.S. applications filed after June 30, 2003.

The present Information Disclosure Statement is being filed: (1) No later than three months from the application's filing date; (2) Before the mailing date of the first Office Action on the merits (whichever is later); or (3) Before the mailing date of the first Office Action after

INFORMATION DISCLOSURE STATEMENT  
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Attorney Docket No. Q77727

filing a request for continued examination (RCE) under §1.114, and therefore, no Statement under 37 C.F.R. § 1.97(e) or fee under 37 C.F.R. § 1.17(p) is required.

In compliance with the concise explanation requirement under 37 C.F.R. § 1.98(a)(3) for foreign language documents, Applicant encloses herewith a copy of a Communication from a foreign patent office in a counterpart application citing such documents (International Search Report for PCT/JP2004/014128 dated January 11, 2005), together with an English-language version (if not already included) of at least that portion of the Communication indicating the degree of relevance found by the foreign patent office.

The submission of the listed documents is not intended as an admission that any such document constitutes prior art against the claims of the present application. Applicant does not waive any right to take any action that would be appropriate to antedate or otherwise remove any listed document as a competent reference against the claims of the present application.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,



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WASHINGTON OFFICE

**23373**

CUSTOMER NUMBER

Date: March 20, 2006

Substitute for Form 1449 A & B/PTO  <b><u>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</u></b>  <i>(use as many sheets as necessary)</i>				<i>Complete if Known</i>	
		Application Number		National Stage of PCT/JP2004/014128	
		Confirmation Number		Unknown	
		Filing Date		March 20, 2006	
		First Named Inventor		Hideki TOMOZAWA	
		Art Unit		Unknown	
		Examiner Name			
		Attorney Docket Number		Q77727	
Sheet	1	of	1		

U.S. PATENT DOCUMENTS					
Examiner Initials*	Cite No. <sup>1</sup>	Document Number		Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document
		Number	Kind Code <sup>2</sup> (if known)		
		US			
		US			

FOREIGN PATENT DOCUMENTS							
Examiner Initials*	Cite No. <sup>1</sup>	Foreign Patent Document			Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Translation <sup>6</sup>
		Country Code <sup>3</sup>	Number <sup>4</sup>	Kind Code <sup>5</sup> (if known)			
		JP	10-209500	A	08/07/1998	TOYODA GOSEI CO. LTD	Abstract
		JP	10-135515	A	05/22/1998	TOYODA GOSEI CO., LTD. and TOYOTA CENTRAL RES. & DEV. LAB INC.	Abstract
		JP	10-308534	A	11/17/1998	SHOWA DENKO KK	Abstract

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city, and/or country where published.	Translation <sup>6</sup>
		LI-CHIEN CHEN, ET AL "MICROSTRUCTURAL INVESTIGATION OF OXIDIZED Ni/Au OHMIC CONTACT TO <i>p</i> -type GaN", JOURNAL OF APPLIED PHYSICS, Vol. 86, No. 7, October 1, 1999, pages 3826-3832	
		JIN-KUO HO, ET AL "LOW-RESISTANCE OHMIC CONTACTS TO <i>p</i> -type GaN ACHIEVED BY THE OXIDATION OF Ni/Au FILMS", JOURNAL OF APPLIED PHYSICS, Vol. 86, No. 8, October 15, 1999, pages 4491-4497	
		LI-CHIEN CHEN, "OXIDIZED Ni/Pt AND Ni/Au OHMIC CONTACTS TO <i>p</i> -type GaN", APPLIED PHYSICS LETTERS, Vol. 76, No. 25, June 19, 2000, pages 3703-3705	
		D. QIAO, ET AL, "A STUDY OF THE Au/Ni OHMIC CONTACT ON <i>p</i> -GaN", JOURNAL OF APPLIED PHYSICS, Vol. 88, No. 7, October 1, 2000, pages 4196-4200	
		J. NARAYAN, ET AL, "FORMATION OF EPITAXIAL Au/Ni/Au OHMIC CONTACTS TO <i>p</i> -GaN", APPLIED PHYSICS LETTERS, Vol. 81, No. 21, November 18, 2002, pages 3978-3980	
		HO WON JANG, ET AL, "MECHANISM FOR OHMIC CONTACT FORMATION OF OXIDIZED Ni/Au ON <i>p</i> -type GaN", JOURNAL OF APPLIED PHYSICS, Vol. 94, No. 3, August 1, 2003, pages 1748-1752	
		D. MISTELE, ET AL, "INVESTIGATION OF Ni/Au CONTACTS ON <i>p</i> -GaN ANNEALED IN DIFFERENT ATMOSPHERES", JOURNAL OF CRYSTAL GROWTH, Vol. 230, No. 3/4, 2001, pages 564-568	
		B. LIU, ET AL, "EFFECTS OF A Ni CAP LAYER ON TRANSPARENT Ni/Au OHMIC CONTACTS TO <i>p</i> -GaN", J. VAC. SCI TECHNOL. B, Vol. 20, No. 4, Jul/Aug 2002, pages 1394-1401	
		J. K. SHEU, ET AL, "THE EFFECT OF THERMAL ANNEALING ON THE Ni/Au CONTACT OF <i>p</i> -type GaN", JOURNAL OF APPLIED PHYSICS, Vol. 83, No. 6, March 15, 1998, pages 3172-3175	

Examiner Signature	Date Considered
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\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup>Applicant's unique citation designation number (optional). <sup>2</sup>See Kind Codes of USPTO Patent Documents at [www.uspto.gov](http://www.uspto.gov), MPEP 901.04 or in the comment box of this document. <sup>3</sup>Enter Office that issued the document, by the two-letter code (WIPO Standard ST. 3). <sup>4</sup>For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>5</sup>Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. <sup>6</sup>Applicant is to indicate here if English language Translation is attached.